Misawa AB Drinking Water Consumer Confidence Report 2011

このレポートには飲料水に関する重要な情報が記載されています。この英文を訳してもらうか、またはどなたか英語が分かる方にたずねてください。

CONTENTS:

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1. WHAT IS A CONSUMER CONFIDENCE REPORT (CCR)?

The U.S. Environmental Protection Agency (EPA) requires community water systems to provide annual drinking water quality reports to their customers. These reports, known as consumer confidence reports (CCRs), enable people to make practical, knowledgeable decisions about their health and their environment. Although EPA does not have jurisdiction at overseas military installations, the Air Force has adopted this requirement for all its bases.

2. WHAT TYPES OF CONTAMINANTS MAY BE IN MY DRINKING WATER?

a. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over land surfaces or through the ground it dissolves naturally occurring minerals, radioactive material, and substances resulting from the presence of animal or human activity. Contaminants that may be present in source water include:

- Microbial contaminants--such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- Inorganic contaminants--such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.
- Pesticides and herbicides--may come from a variety of sources such as agriculture, stormwater runoff, and residences.
- Organic chemical contaminants--including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. Organic chemicals can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants--may be naturally occurring or be the result of oil and gas production and mining activities.

b. In order to ensure tap water is safe to drink, the Department of Defense prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. These limits are the same as those established by the EPA for drinking water in the US. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

c. Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek drinking water advice from their health care providers.

d. The 35 CES Water Plant is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. For this reason, Bioenvironmental Engineering samples for lead contamination. During the last sample events in 2008 and 2010, all results were below the EPA action level. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 1 minute before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead/."

3. IS OUR DRINKING WATER SAFE?

Yes. We receive high-quality water that meets the same standards as drinking water in the US through a combination of Civil Engineering's constant treatment and maintenance, Bioenvironmental Engineering Flight's sampling, analysis, and monitoring, and everyone's pollution prevention practices.

4. WHERE DOES MISAWA's DRINKING WATER COME FROM?

The Air Force maintains three separate drinking water systems on Misawa AB (Main Base, North Area, Security Hill), and two separate water systems at Draughon Range (two systems). The Main Base receives water from five ground water wells and Lake Anenuma. The North Area receives its water from four north area ground water wells. Security Hill receives its water from two deep wells located there. Draughon Range contains two systems: the Air Force Range Office and surrounding buildings receive water from one ground water well, while the gate area receives its water from the City of Misawa. The City of Misawa receives its water from ground water wells.

5. HOW IS OUR DRINKING WATER TREATED?

Treatment systems are operated in a manner that ensures appropriate chemical concentrations are maintained throughout the distribution system. Table 1 below describes the treatment process for each location on the installation.

Table 1. Water Treatment

Location	Source	Water Treatment Processes
Main Base	Well Water	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
	Lake Water	Activated carbon filtration to absorb chemicals
		Coagulation/flocculation/sedimentation to remove algae/large particles
		Sand filter to remove particles
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
North Area	Well Water	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
Security Hill	Well Water	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
Draughon Range	Well Water	Chlorination to disinfect/prevent distribution system contamination
	Misawa City	Chlorination to disinfect/prevent distribution system contamination

6. HOW OFTEN IS MISAWA's DRINKING WATER TESTED?

In compliance with Air Force and Department of Defense regulations, the Bioenvironmental Engineering Flight monitors for more than 100 possible substances in Misawa's drinking water at differing intervals. Table 2 below identifies the sampling they conduct.

Table 2. Contaminant Groups and Monitoring Frequencies

Contaminant Group	Examples	Monitoring Frequency
Biological Contaminants	Coliform bacteria	Monthly
Inorganic Contaminants	Metals (e.g. lead, copper, selenium, arsenic, mercury, nickel)	Main Base Lake Water - Annually
		Main Base Well Water - Once every three years
		North Area, Security Hill - Once every three years
	Nitrate, Nitrite, Total Nitrate and Nitrite	Main Base Lake Water Annually
		Main Base Well Water - Annually
		North Area, Security Hill - Annually
	Asbestos	Once every 9 years
Volatile Organic Compounds	Benzene, Trichloroethylene, Carbon Tetrachloride, etc	Main Base Lake Water - Once every three years
		Main Base Well Water - Once every three years
		North Area - Once every three years
		Security Hill – Once every three years
Synthetic Organic Compounds	Pesticides, Herbicides, PCBs	Main Base Lake Water - Quarterly
		Main Base Well Water - 2 consecutive quarters every 3 years
		North Area - Once every three years
		Security Hill - Once every three years
Lead & Copper From Plumbing Materials	Lead, Copper	Once every 3 years
Radiological Compounds	Gross Alpha and Beta, Radium 226	4 quarterly samples every 4 years
Disinfectant By-Products	Trichloromethane, Haloacetic Acids (HAA5)	Main Base - Quarterly
		North Area, Security Hill - Annually

7. WHAT IS IN OUR DRINKING WATER?

Misawa's water meets all the EPA and Air Force health standards. The vast majority of regulated substances were not found in Misawa's water. For simplicity, this report only provides information on the substances that were detected. The contaminants presented in the following tables are organized by the respective water distribution system. The presence of contaminants in the water does not necessarily indicate a health risk.

Table 3. Detected Contaminants for Main Base Distribution System

Contaminant	MCLG	MCL	Highest Level	Above MCL?	Typical Source
Inorganic Contaminants					
Nitrate	10 mg/L	10 mg/L	2.8 mg/L	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride	4 mg/L	4.0 mg/L	1.3 mg/L	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Barium	2 mg/L	2 mg/L	0.0052 mg/L	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Sodium	No MCLG	200 mg/L	30 mg/L	No	Discharge from mines; discharge from petroleum refineries
Lead	0	Action Level[1] 0.015 mg/L	0.0013mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper	1.3 mg/L	Action Level[1] 1.3 mg/L	0.0470 mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Disinfectant By-products					
Total Trihalomethanes	See Note 2	0.08 mg/L	0.0208 mg/L	No	By-product of drinking water disinfection
Haloacetic Acids	See Note 2	1.0 mg/L	0.0057 mg/L	No	By-product of drinking water disinfection
Radioactive Contaminants					
Gross Alpha	0	15 pCi/L	0.13 pCi/L	No	Erosion of natural deposits
Radium	0	5 pCi/L	0.36 pCi/L	No	Erosion of natural deposits

1. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

2. Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:

- Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
- Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

Table 4. Detected Contaminants for North Area Water System

Contaminant	MCLG	MCL	Highest Level	Above MCL?	Typical Contaminant Source
Coliform Bacteria					
Total coliforms	0	Detected in no more than 5% of samples per month	Detected in 2 of 41 samples	No	Commonly found in the environment (e.g., soil or vegetation)
Inorganic Contaminants					
Arsenic	0	0.01 mg/L	0.0024 mg/L	No	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes
Fluoride	4 mg/L	4.0 mg/L	0.9 mg/L	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium	No MCLG	200 mg/L	11 mg/L	No	Discharge from mines; discharge from petroleum refineries
Nitrate	10 mg/L	10 mg/L	1.1 mg/L	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Lead	0	Action Level[1] 0.015 mg/L	0.0013 mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper	1.3 mg/L	Action Level[1] 1.3 mg/L	0.0086 mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Disinfectant By-products					
Total Trihalomethanes	See Note 2	0.08 mg/L	0.0024 mg/L	No	By-product of drinking water disinfection
Haloacetic Acids	See Note 2	1.0 mg/L	0.0014 mg/L	No	By-product of drinking water disinfection
Radioactive Contaminants					
Gross Alpha	0	15 pCi/L	3.1 pCi/L	No	Erosion of natural deposits

1. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

2. Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:

- Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
- Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

Table 5. Detected Contaminants for Security Hill Water System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Fluoride	4.0 mg/L	4.0 mg/L	0.1 mg/L	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrite	1 mg/L	1 mg/L	0.16 mg/L	No	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Sodium	No MCLG	200 mg/L	23 mg/L	No	Discharge from mines; discharge from petroleum refineries
Lead	0	Action Level[1] 0.015 mg/L	0.0044 mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper	1.3 mg/L	Action Level[1] 1.3 mg/L	0.016 mg/L	No	Corrosion of household plumbing systems; erosion of natural deposits
Radioactive Contaminants					
Gross Alpha	0	15 pCi/L	0.52 pCi/L	No	Erosion of natural deposits
Radium-226	0	5 pCi/L	0.12 pCi/L	No	Erosion of natural deposits
Disinfectant By-products					
Total Trihalomethanes	See Note 2	0.08 mg/L	0.037 mg/L	No	By-product of drinking water disinfection
Haloacetic Acids	See Note 2	1.0 mg/L	0.0073 mg/L	No	By-product of drinking water disinfection

1. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.
2. Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:
   - Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
   - Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

Draughon Range: No contaminants detected.

8. WHERE CAN WE GET MORE INFORMATION?

The Bioenvironmental Engineering Flight, 35 AMDS/SGPB, prepared this CCR. Additional information regarding on-base water quality may be obtained by contacting the Bioenvironmental Engineering Flight at 226-6107. This report is located on the 35 AMDS/SGPB (Bioenvironmental Engineering) website at https://misawa.eim.pacaf.af.mil/sites/BEF/default.aspx. You can also access the EPA's drinking water website at http://www.epa.gov/safewater.

9. ACRONYMS AND TERMS USED IN THIS REPORT: The table below explains the acronyms, terms, and units of measure used in this CCR:

Table 8. Acronym/Term List

nit Descriptions	
Term	Definition
mg/L	Milligrams per liter of water (mg/L)
ug/L	Micrograms per liter of water (ug/L)
N/A	Not applicable
None	No established regulatory levels/limits for MCLG or MCL
Important Drinking Water Definitions	
Term	Definition
Action Level	Concentration of a contaminant which triggers treatment or other requirement which a water system must follow.
Avg	Average of concentrations from all samples collected in the year
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
SDWR	Secondary Drinking Water Regulation: Non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply.
Range	The range of the highest and lowest analytical values of a reported contaminant. For example, the range of reported analytical detections for an unregulated contaminant may be 10.1 ppm (lowest value measured in year) to 13.4 ppm (highest value measured in year). EPA requires this range to be reported.
Acronym Explanation	
Acronym	Explanation
ADA	American Dental Association
AB	Air Base
AIDS	Acquired Immune Deficiency Syndrome
CCR	Consumer Confidence Report
EPA	Environmental Protection Agency
HIV	Human Immunodeficiency Virus
JEGS	Japanese Environmental Governing Standards
SDWA	Safe Drinking Water Act; Federal law which sets forth drinking water regulations
TCE	Trichloroethylene